



## CLAIMS

What I claim as my invention is:

1. A retractable writing tool comprising:  
a front barrel (207) a rear barrel (202) and a plunger (201) capable of moving a cartridge (204) with a tip (101) between a retracted position and a protracted position;  
a feeder (107) capable of conveying fluid to the tip (101) and a valve (206) having a front end (103) and a back end (104), where the front end (103) has a round face with a concave shape profile and a slit (600), the front end (103) is adjacent to the opening (203) of the front barrel (207) so that in the retracted position the tip (101) is between the front end (103) and the back end (104) substantially sealed from outside air to substantially prevent the writing fluid from evaporating to the outside air, and preventing the release of vapor fluid from within the enclosure (102) when the tip (101) is in a retracted position, where in the protracted position, the tip (101) extends through the slit (600) of the valve (206) and opening (203) of the front barrel (207), where the valve (206) is made of silicone.
2. The valve (206) of claim 1, where the valve (206) is made of rubber.
3. The valve (206) of claim 1, where the valve (206) is made of thermoplastic elastomer.
4. The valve (206) of claim 1, where the valve (206) is treated with fluorine.

5. The front barrel of claim 1, where the inner circumference of the front barrel (207) is about the same circumference or slightly less than the outer circumference around the front end (103) of valve (206).
6. The valve (206) of claim 1, where the front end (103) is separated from the inner circumference of the front barrel (207) by an open space.
7. The valve (206) of claim 1, where the back end (104) has a hole (1500) that is adapted to seal around the leading section (1700) of the cartridge (204).
8. The valve (206) of claim 1, where the valve (206) has at least one cavity (901) to position the valve (206) at a predetermined position within the front barrel (207).
9. The front barrel (207) of claim 1, where the front barrel has at least one tab (1600) that is adapted to engage with at least one cavity (901) to position the valve (206) at a predetermined position within the front barrel (207).
10. The cartridge (204) of claim 1, where the cartridge (204) has at least one flat (2000) adapted to engage within the rear barrel (202), the rear barrel (202) adapted to receive the flat (2000) for guiding the cartridge 204 along an axially direction without rotating.

11. The valve (206) of claim 1, further including a tension device (1000) around the front end (103) to substantially close the slit (600) when the tip (101) is in the retracted position.
12. The tension device (1000) of claim 11, where the tension device (1000) is a ring.
13. The tension device (1000) of claim 11, where the tension device (1000) is an elastic band.
14. The valve (206) of claim 1, where the front end (103) has a concave shape profile with a slit (600) that is formed along the longitudinal axis (301).
15. The valve (206) of claim 1, where the front end (103) has a convex shape profile with a slit (600) that is formed along the longitudinal axis (301).
16. The valve (206) of claim 1, where the front end (103) has a substantially flat profile with a slit (600) that is formed along the longitudinal axis (301).
17. The valve (206) of claim 1, where the front end (103) has an outer circumference, and further including an array of ribs (1400) along the outer circumference to support the front end (103) to close the slit (600).

18. The valve (206) of claim 1, where the slit (600) withstands between 0 and 4 pounds of vapor pressure from within the enclosure (102).

19. The valve (206) of claim 1, where the diameter of the hole (1500) is less than the diameter of the second leading section (1702) of the cartridge (204) to substantially seal the hole (1500) to withstand between 0 and 4 pounds of vapor pressure from within the enclosure (102).

20. The valve (206) of claim 1, where the front end (103) has an oval face, where the oval face has an elongated edge, where the slit (600) is formed along the longitudinal axis (301).

21. The cartridge (204) of claim 1, having a leading section (1700) with a first opening (302) adapted to receive a tip (101), the leading section (1700) having a first leading section (1701) tapering downward towards the first opening (302) along a longitudinal axis (301), a second leading section (1702) forms a seal with a hole (1500) in the back end (104) of the valve (206) when the tip (101) is in the retracted position, and a third leading section (1703) tapering downward towards the elongated portion (105) and including an array of cavities (1800) that extend back along the elongated portion (105) to minimize the surface area of the elongated portion (105) and collect fluid residue that is built up on the elongated portion (105) as the elongated portion (105) moves into the valve (206) and collects fluid condensation from within the enclosure (102).

22. The cartridge (204) to claim 1, where the third leading section (1703) has recess areas along the elongated portion (105) to form a gap between the

back end (104) and the third leading section (1703) as the third leading section (1703) moves through the hole (1500) in the back end (104).